

What is claimed is:

1. A disk brake assembly comprising:
 - a disk rotor having a central axis;
 - a pair of friction pads arranged and constructed to be pressed against the disk rotor from opposing sides in an axial direction of the disk rotor; and
 - a return spring coupled to the friction pads and arranged and constructed to bias the friction pads in directions away from the disk rotor, wherein:
 - the return spring includes a straddle portion, a pair of extensions and a pair of engaging portions,
 - the straddle portion is disposed radially outside of the disk rotor and extends in the axial direction across the thickness of the disk rotor in order to straddle the disk rotor,
 - each of the extensions extends from the straddle portion, in a direction substantially toward the central axis of the disk rotor, to an engaging position that is proximate to a centerline of one of the friction pads with respect to a radial direction of the disk rotor;
 - each of the engaging portions is disposed at one end of each extension and engages one of the friction pads at the engaging position.
2. A disk brake assembly as in claim 1, further including:
 - a mount arranged and constructed to support the friction pads; and
 - a slide guide device including a first guide portion and a second guide portion provided on the mount and each of the friction pads, so that the second guide portion can slide relative to the first guide portion, wherein:
 - the second guide portion is disposed at the engaging position; and
 - each of the engaging portions of the return spring engages the second guide portion.
3. A disk brake assembly as in claim 2, wherein:
 - each of the friction pads further includes a friction member and a back plate arranged and constructed to support the friction member from a rear side of the friction member;

the second guide portion is disposed on each end of the length of the back plate with respect to a circumferential direction of the disk rotor and extends outward from each end of the back plate in the circumferential direction,

each of the extensions of the return spring includes a pressing portion arranged and constructed to contact the second guide portion so as to apply a pressing force against one of the friction pads in order to bias the friction pads away from the disk rotor,

the pressing portion extends in the radial direction with respect to the disk rotor and is located between the second guide portion and the disk rotor.

4. A disk brake assembly as in claim 3, wherein;

each of the engaging portions of the return spring is further configured to be turned back to conform to the configuration of a radially inner edge, with respect to the disk rotor, of the second guide portion.

5. A disk brake assembly as in claim 4, further including;

second engaging portions disposed on the extensions of the return spring,
wherein each of the second engaging portions of the return spring is configured to be turned back to conform to the configuration of a radially outer edge, with respect to the disk rotor, of the second guide portion.

6. A disk brake assembly as in claim 1, wherein the straddle portion includes one spirally wound portion.

7. A disk brake assembly as in claim 6, wherein the straddle portion includes a plurality of spirally wounded portions that are arranged along the length of the straddle portion.

8. A disk brake assembly as in claim 1, wherein the straddle portion includes one fold disposed in a position substantially centrally of the straddle portion.

9. A disk brake assembly as in claim 8, wherein the straddle portion includes a plurality of folds arranged along the length of the straddle portion.

10. A disk brake assembly as in claim 1, further including a mount arranged and constructed to support the friction pads, so that the friction pads can move relative to the mount, wherein;

each of the extensions of the return spring extends from the straddle portion to the engaging position along of end portions of the friction pads with respect to a circumferential direction of the disk rotor, through a gap provided between the mount and the one of end portions of the friction pads.

11. A disk brake assembly as in claim 1, further including:

a mount arranged and constructed to support the friction pads, so that the friction pads can move relative to the mount, and

a caliper mounted on the mount and disposed radially outside of the friction pads, having a space defined between the caliper and the friction pads in the radial direction of the disk rotor, and

the straddle portion includes a pair of circumferentially extending portions extending from the respective extensions and an axially extending portions connected between the circumferentially extending portions, and

each of the circumferentially extending portions extends in the circumferential direction with respect to the disk rotor, and

the axially extending portion extends in the axial direction with respect to the disk rotor, and

the circumferentially extending portions and the axially extending portion extend within and along the space defined between the caliper and the friction pads.

12. A disk brake assembly comprising:

a disk rotor having a central axis;

a pair of friction pads arranged and constructed to be pressed against the disk rotor from opposite sides in an axial direction of the disk rotor, and

a return spring arranged and constructed to bias the friction pads away from the disk rotor, wherein:

the return spring is coupled to and between the friction pads and has a straddle portion, a pair of extensions, and a pair of joint portions;

the straddle portion is disposed radially outside of the disk rotor and extends in the axial direction of the disk rotor in order to straddle the disk rotor,

each of the extensions has a first end connected to the straddle portion and a second end connected to one of the joint portions,

each of the joint portions is joined to one of the friction pads,

the straddle portion has a resiliently deformable portion so as to provide a biasing force to urge the friction pads away from the disk rotor.

13. A disk brake assembly as in claim 12, wherein the return spring is made of wire spring.

14. A disk brake assembly as in claim 13, wherein the resiliently deformable portion includes at least one spirally wound portion.

15. A disk brake assembly as in claim 14, wherein the resiliently deformable portion includes a plurality of spirally wound portions that are arranged along the length of the straddle portion.

16. A disk brake assembly as in claim 12, wherein the resiliently deformable portion includes an elongated spring plate.

17. A disk brake assembly as in claim 16, wherein the resiliently deformable portion includes at least one fold of the straddle portion.

18. A disk brake assembly as in claim 17, wherein the resiliently deformable portion includes a plurality of folds arranged along the length of the straddle portion.

19. A disk brake assembly as in claim 12, wherein each of the joint portions is joined to one of the friction pads in a position proximal to a central line of the one of the friction pads with respect to a radial direction of the disk rotor.

20. A disk brake assembly as in claim 12, wherein each of the extensions extends along and contacts a surface of one of the friction pads, which surface extends substantially parallel to the disk rotor.